

Hot Line (1070)

This automatic dialing feature provides the customer with the ability to automatically be connected with another line on the circuit switched network. When the customer's station goes off-hook, a switched connection is set up without any further user action.

Generic Name of ONA Service	Product Name	BSE or CNS
Hot Line	BA - Hot Line	CNS
	BS - Hot Line	CNS
	NX - Hot Line	BSE or CNS
	PB - Direct Connection	CNS
	SWB - Hot Line	CNS
	USW - Hot Line	CNS

FEATURE OPERATION:

1. A subscriber to this service, upon going off-hook to initiate a call, will be automatically connected to a single predetermined number. No digits dialed by the subscriber will be accepted by the Central Office switch.
2. The service, including the predetermined number, is activated via a service order with the telephone company. Changes in the predetermined number can only be made via an additional service order.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS23

2. The predetermined number can be any valid seven to fifteen digit number.
3. Incoming calls are unaffected by this service.
4. A subscriber to Hot Line cannot have other originating features on the same line (i.e., Speed Calling, Warm Line, Call Forwarding, Three-Way Calling, Call Transfer).
5. References:

- TR-TSY-000562 Manual Line Features, FSD 01-02-0301 (A Module of LSSGR, FR-64), Issue 1, May 1990.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Message Waiting Indicator (MWI) - Ability To Receive Audible Message Waiting (1073)

With this capability, the ESP's client can receive the audible message waiting signal, i.e., stutter dial tone (or recall dial tone), when activated by the ESP. This capability is a client option. The line should be programmed with this feature in order for the client to receive stutter dial tone (message waiting tone).

To activate or deactivate the stutter dial tone on the client's line with the ability to receive audible message waiting, the ESP uses an SMDI data link to the central office switch.

Generic Name of ONA Service	Product Name	BSE or CNS
Message Waiting Indicator (MWI) - Ability To Receive Audible Message Waiting	AM - Message Waiting Tone	CNS
	BA - Messaging Services Interface	CNS
	BS - Message Waiting Indication - Audible	CNS
	NX - SMDI	CNS
	PB - Message Waiting Indicator	CNS
	SWB - Customer Alerting Enablement	CNS
	USW - Message Waiting Indication - Audible	CNS
	USW - Message Waiting Indication - Aud/Vis(8037)	CNS

FEATURE OPERATION:

1. Once the MWI feature is assigned to the ESP's client's line, there is no required action by the client to activate/deactivate the feature.
2. Any ESP can turn off/on a client's Message Waiting Indicator providing they reside in the same Central Office as the client.
3. With appropriate line translations in Stored Program Control switches, an ESP can turn on or off a special recall dial tone (stutter dial tone) to notify their clients of an awaiting message. Whenever the client attempts to originate a call, the client receives stutter dial tone. This indicates to the client that a message(s) has been received by the ESP for the client. The client will receive stutter dialtone each time he attempts to originate a call until the ESP sends a message to the switch to remove the stutter dialtone (MWI).
4. An ESP's client can use call forwarding busy line (CFBL), call forwarding don't answer (CFDA), or call forwarding variable (CFV) to forward their calls to the ESP.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E4.2*	BCS29**

Note: * In the 5ESS, this feature requires the non-standard pre-ISDN arrangement using the ISDN 1 Message AP/ACP or 3A translator with the SE4.2 Generic.

Note: ** In the DMS-100, BCS29 supports this feature on Residential Enhanced Services (RES).

2. This feature can only be offered on an Intraoffice basis.

3. References:

- For MWI: TR-NWT-000283, Simplified Message Desk Interface (SMDI) Generic Requirements, FSD 05-02-0150 (A Module of LSSGR, FR-64), Issue 2, May 1991, Supplement 01 - December 1991.
- Recall dial tone (stutter dial tone) described in GR-506 LSSGR: Signaling For Analog Interfaces, (A Module of LSSGR, FR-64), Issue 1, June 1996, Revision 1 - November 1996 (replaces TR-TSY-000506, Issue 3).

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Message Waiting Indicator (MWI) - Ability to Receive Visual Message Waiting(1074)

With this capability, the ESP's client can receive a visual alerting signal from the ESP. This capability is a subscriber option. The visual MWI is a device with an illuminating lamp that is controlled by signals received via the client's line from the appropriately equipped central office switches.

Generic Name of ONA Service	Product Name	BSE or CNS
Message Waiting Indicator (MWI) - Ability To Receive Visual Message Waiting	BA - Messaging Services Interface	CNS
	BS - Station Message Waiting Lamp Indication	CNS
	PB - Electronic Business Set Message Waiting	CNS
	USW - Message Waiting Indication - Visual	CNS
	USW - Message Waiting Indication - Aud/Vis(8037)	CNS

FEATURE OPERATION:

MWI - Ability to Receive Visual Message Waiting is a central office software and hardware capability that allows a subscriber, with special CPE, to have a lamp or LCD flash at 60 IPM when there are messages waiting at their message bureau, and be turned off to indicate that there are no messages.

This feature is activated/deactivated by the ESP who uses an SMDI-type data link to the central office switch. A customer's lamp or LCD is activated on their CPE when an ESP sends a signal to the central office to apply 130 volts to the customer's lamp. The ESP (Voice Mail provider, other message provider, etc.) would send an additional signal after the messages have been retrieved by the clients to remove the 130 volts from their client's lamp.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8	5E4.2* * ISDN	BCS29

2. The lamp is off when the subscriber is off-hook or there are no messages queued and the subscriber is on-hook.
3. This capability requires a specialized line card.
4. References:
 - U S WEST reference publication 77335 - "Message Waiting Indication - Visual," Issue A, September 1990.

Multiline Hunt Group (1077)

Multiline Hunting provides a software-defined search for an idle terminal to which a call can be completed. When calls are placed to a Multiline Hunt Group, hunting begins with a member designated by the dialed directory number and hunts sequentially through the group until an idle member is found or the end of the designated list is encountered. If no idle member is found, busy tone is returned to the calling party. Several types of hunting arrangements are available: Regular Hunting, Circular Hunting, and Preferential Hunting.

Preferential hunting provides individual terminals in a hunt group a "preferential list" that consists of any terminals in the hunt group to be hunted in any sequence. If the telephone number of the called line is found busy, the preferential list is sequentially hunted for an idle line. If all the terminals in the preferential list are found busy, the last number of the preferential list is the start hunt telephone number for the regular or circular hunt group. The effect is to make a hunt group member the "pilot" of it's own hunt group.

Generic Name of ONA Service	Product Name	BSE or CNS
Multiline Hunt Group	AM - Circular Multiline Hunt Group	BSE
	AM - Multiline Hunt Group Overflow	BSE
	AM - Preferential Hunting	BSE
	AM - Regular Multiline Hunt Group	BSE
	BA - Hunting Service Arrangements	BSE
	BA - Hunting Service Arrangements:Circular (3023)	BSE
	BA - Hunting Service Arrangements:Preferred (3024)	BSE
	BS - Multiline Hunt Groups	BSE or CNS
	NX - Hunt Groups	BSE
	PB - Hunt Group Arrangement	BSE
	SWB - Multiline Hunt Group	BSE
	USW - Hunting	BSE

FEATURE OPERATION:

The Regular Line Hunting capability offers a hunting arrangement in which hunting begins with the terminal number associated with the called number and continues sequentially through the last terminal number in the Multiline Hunt Group where the hunting is stopped.

The Circular Line Hunting capability offers a hunting arrangement in which hunting begins with the terminal number associated with the called number and continues sequentially through the last terminal number in the Multiline Hunt Group where hunting resumes at terminal 1 and continues through the terminal preceding the start hunt terminal.

The preferential hunting arrangement allows a prehunt over a subset or preferential list of terminals before hunting through the hunt group. The hunt group can be either a circular or regular hunt group. All terminals in the group can have their own preferential list. When a call is to terminate to a group with preferential hunting, the address of the preferential list is obtained and conditional hunting is performed. The first terminal in the list is examined, and if idle, an attempt is made to terminate the call. If busy, the next terminal in the preferential list is examined and so on until an idle terminal is found. If an idle line is not found, then the last terminal in the list is used as the start hunt number into the regular or circular hunt group. A regular or circular hunting is performed, and if no idle terminal is found via a search through the entire group, the calling party receives busy tone.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS*	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS17

Note: * Regular and Circular Hunting only are available in the 5ESS switch.

2. These Hunting features are compatible with the majority of Distinctive Ringing, and Three-Way Calling features in the 1A ESS, 5ESS and the DMS-100 switches. The Call Forwarding features are compatible with the hunting techniques in the 1A ESS and 5ESS switches.
3. The Call Waiting feature is compatible with preferential hunting in both the 1A ESS and the DMS-100.
4. In the 1A ESS, the preferential list can have a maximum of 18 terminals assigned to be hunted before returning to the hunt group. In the DMS-100, the preferential list can have a maximum of 19 terminals assigned, including the pilot number, to be hunted before returning to the hunt group.
5. In the DMS-100, preferential hunting is compatible with the Distributed Hunt Number feature.
6. References:
 - TR-TSY-000569 Multiline Hunt Service, FSD 01-02-0802 (A Module of LSSGR, FR-64), Issue 1, May 1990.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Multiline Hunt Group - C. O. Announcements (1078)

The delay announcement for queued calls on hunt group feature provides various options for handling incoming callers to a multiline hunt group that is subject to queuing. The basic queuing service provides only for audible ringing tone treatment for waiting callers. This feature allows timed audible ringing tone followed by a customer-selected (e.g., ESP-selected) combination of announcements separated by silence, music, or audible ringing tone. The announcements are standard call progress type announcements, not ESP-programmed announcements. Answer supervision is returned toward the calling party after timed audible tone when the first announcement begins.

Generic Name of ONA Service	Product Name	BSE or CNS
Multiline Hunt Group - C. O. Announcements	AM - Central Office Announcements	BSE
	BA - Delay Announcements	BSE
	BS - Multiline Hunt Queuing	BSE
	BS - Queuing (Access)	BSE
	NX - Queuing/UCD	BSE or CNS
	PB - Hunt Group - C.O. Announcements	BSE
	SWB - Recorded Announcements	BSE
	USW - Uniform Call Distribution	BSE

FEATURE OPERATION:

The delay announcement feature provides for automatic routing of incoming calls to multiline hunt groups to one or more pre-recorded announcements when the call is not serviced within a preset time interval.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS17

2. 1A ESS Switch:

The following optional capabilities are available, depending upon switch/generic type, with the delay announcement feature: Fixed Delay announcement, Flexible First Delay announcement, Variable Length Delay announcement, Service After Delay Announcement, Delay Announcement Improved Billing, and Selective Delay Announcement.

UCD customers using Delay Announcement must have queuing.

Customers can specify a length of time for incoming calls to be in queue before the Delay Announcement is activated.

Queuing can be zero seconds so that every caller receives an announcement.

Customers may have up to four different Delay Announcements.

Queuing timing begins after callers receive each announcement.

Announcement access trunks are required and must be traffic engineered for each customer.

Separate announcement access trunks are required for each Delay Announcement.

3. 5ESS Switch:

The following options are available, depending upon switch/generic type, with the delay announcement feature: Initial Tone treatment, Initial Delay Interval after Delay Announcement, Delay Interval between Delay Announcements, Delay Announcement Length, and Flexible First Delay Announcement.

There is a capability for four delay announcements in the 5ESS Switch. The 5ESS Switch has the capability to provide Inter delay (between announcements) timing, maximum of eight delays, tones and the number of cycles, up to 3, that a recording can play.

4. DMS-100 Switch:

Multiline Hunting queuing functionality is available via Uniform Call Distribution (UCD) in the Northern Telecom Inc. switching machines. Currently, a UCD is assigned to a Meridian Digital Centrex environment. Where there are more incoming calls than agents to serve them, delay will be encountered before the calls are answered. There is a maximum of three delay announcements available to the ESP. A recorded announcement advising of the delay will be provided when a delay threshold is exceeded. The delay threshold is a customer option for the NTI UCD.

5. References:

- TR-TSY-000569 Multiline Hunt Service, FSD 01-02-0802 (A Module of LSSGR, FR-64), Issue 1, May 1990.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Multiline Hunt Group - Individual Access To Each Port In Hunt Group (1079)

Individual access to each port in a hunt group allows each line in a multiline hunt group (including the lead line) to be assigned a separate non-hunt directory number.

Generic Name of ONA Service	Product Name	BSE or CNS
Multiline Hunt Group - Individual Access To Each Port In Hunt Group	AM - Non-Hunting Number For Use With Hunt Group Arrangement or UCD Arrangement	BSE
	BA - Non-Hunt Directory Numbers	BSE
	BS - Multiline Hunt Groups	BSE or CNS
	BS - Nonhunting Number for use with Hunt Group or UCD Arrangement (Access)	BSE
	NX - Hunt Groups	BSE or CNS
	PB - Nonhunting Number Arrangement	BSE
	SWB - Nonhunting Number Arrangement	BSE
	USW - Hunting	BSE

FEATURE OPERATION:

When the non-hunt directory number is dialed, a call is placed only to the designated number. If the number is busy, the call will not route to other members of the hunt group, and a busy signal is returned.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

- Individual access to each port in a hunt group is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS25

- In the 1A ESS switch this feature can be assigned with the following constraints:

Each terminal number must be assigned its own Directory Number.

Queuing of Lines will not be allowed.

Stop Hunt Keys are not permitted.

- In the DMS-100 this feature can be satisfied by using either Distributed Line Hunting or the Multiline Hunt Group Feature in conjunction with the Bridged Night Number feature. The Individual Access to Each Port in a Hunt Group feature is not compatible with the Universal Call Distribution hunting arrangement in the DMS-100.
- Call Waiting - Terminating and Call Forwarding features should not be assigned to the non-hunt directory number.

5. References:

- TR-TSY-000569 Multiline Hunt Service, FSD 01-02-0802 (A Module of LSSGR, FR-64), Issue 1, May 1990.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Multiline Hunt Group - Overflow (1080)

The maximum size of hunt groups is switching system dependent. This capability permits hunt groups to be large in size, within the limitations of the switching system serving the ESP. MLHG - Overflow allows a call destined for the ESP's hunt group to be routed to another telephone number within the same switching machine, but outside the hunt group. This capability requires an extra translation in order for the multiline hunt group overflow to be enabled in the switch.

Generic Name of ONA Service	Product Name	BSE or CNS
Multiline Hunt Group - Overflow	AM - Multiline Hunt Group Overflow	BSE
	BA - Multi-line Hunt Group	BSE
	BS - Multiline Hunt Groups	BSE or CNS
	NX - Hunt Groups	BSE
	PB - Hunt Group Overflow	BSE
	USW - Hunting	BSE

FEATURE OPERATION:

In the 1A ESS and 5ESS machines, Call Forwarding Busy Line (CFBL) will be assigned to the MLHG to accomplish the overflow function. In the DMS 100, Line Hunt Overflow to a Route or Line Hunt Overflow to a Directory Number are utilized to provide this capability.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS17

2. 1A ESS and 5ESS Switches:

For MLHG hunt lines, CFBL call forwarding occurs only when all lines are busy. The lines hunted depend on the hunting arrangement as follows:

Regular Hunting, CFBL forwarding treatment is provided only when all lines hunted, including the last line in the hunt group, are found busy.

Circular Hunting is similar to regular hunting except hunting does not end with the last line in a prearranged hunt group. In circular hunting, all lines in the hunt group are hunted for an incoming call. CFBL call forwarding treatment is provided only when all lines in a circular hunt group are searched and found busy.

3. DMS 100 Switch:

The following overflow features can be assigned to Distributed Number Hunting, Multiline Hunting and Distributed Line Hunting:

If all lines in the above listed hunt groups are busy, the overflow to a directory number (LOD) feature can be assigned to the hunt group. The LOD feature will cause hunting to continue to a specified directory number.

If all lines in the above listed hunt groups are busy, the overflow to a route index (LOR) can be assigned to the hunt group. This will give the ESP the capability to hunt to a trunk group, announcement group, or private facilities that are accessed via a route index.

4. References:

- TR-TSY-000569 Multiline Hunt Service, FSD 01-02-0802 (A Module of LSSGR, FR-64), Issue 1, May 1990.

This service is associated with the Circuit Switched Line basic serving arrangement.

Multiline Hunt Group - Uniform Call Distribution Line Hunting (1081)

The Uniform Call Distribution line hunting arrangement allows for equal distribution of incoming calls to all terminal numbers within a hunt group.

Generic Name of ONA Service	Product Name	BSE or CNS
Multiline Hunt Group - Uniform Call Distribution Line Hunting	AM - Uniform Call Distribution	BSE
	BA - Uniform Call Distribution	BSE
	BS - Uniform Call Distribution	BSE
	NX - Queuing/UCD	BSE or CNS
	PB - Uniform Call Distribution	BSE
	SWB - Uniform Call Distribution Arrangement	BSE
	USW - Uniform Call Distribution	BSE

FEATURE OPERATION:

1. When an incoming call (to the Directory Number of the multiline hunt group) is received, hunting should begin at the start-hunt terminal and proceed as a circular hunt.
2. When an idle terminal is found, the call should be completed, and immediately (even before another call attempts to terminate) a new circular hunt should begin for an idle terminal. This hunt should begin at the terminal number after the one that the call was just completed. When an idle terminal is found, the hunt should stop and the idle terminal number should be stored as the start-hunt terminal for the next incoming call to the Directory Number (DN) of the multiline hunt group (MLHG). If no idle terminal is found after a complete circular hunt is made, the stored start-hunt DN should be the DN of the last completed call.
3. If an incoming call is not to the DN of the MLHG but to a DN associated with one of the terminals of the MLHG instead, the start-hunt terminal as defined above for Uniform Call Distribution should not be used. Instead, the incoming call should be directed to the terminal associated with the called DN directly. If the called DN terminal is busy, a circular hunt should begin at the called DN terminal and continue until an idle terminal is found. If none is found, the incoming call should be given busy treatment. In either case, the next incoming call to the MLHG DN uses a start-hunt number as determined by 2 above, which is unaffected by the call to a terminal's direct DN.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS25

2. In the 1A ESS and 5ESS switches, Call Waiting - Terminating and series completion cannot be assigned to lines with the UCD feature. In the DMS-100, the Universal Call Distribution feature is not compatible with Automatic

Call Back, Automatic Recall, Automatic Call Distribution, Bridged Night Number, Calling Number Delivery, Calling Number Delivery Blocking, Distributed Line Hunting, Distributed Number Hunting, Multiline Hunting, Preferential Hunting and Stop Hunt.

3. References:

- TR-TSY-000569 Multiline Hunt Service, FSD 01-02-0802 (A Module of LSSGR, FR-64), Issue 1, May 1990, see "uniform call distribution hunting."

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Multiline Hunt Group - UCD With Queuing (1082)

This feature provides the capability for a UCD multiline hunt group to be equipped with the queuing feature. The queuing feature provides a means for automatically queuing calls to a multiline hunt group when all hunting group terminations are busy.

Generic Name of ONA Service	Product Name	BSE or CNS
Multiline Hunt Group - UCD With Queuing	AM - Queuing	BSE
	BA - Uniform Call Distribution	BSE
	BS - Multiline Hunt Queuing	BSE
	BS - Queuing (Access)	BSE
	NX - Queuing/UCD	BSE or CNS
	PB - Uniform Call Distribution With Queuing	BSE
	SWB - Queuing	BSE
	USW - Uniform Call Distribution	BSE

FEATURE OPERATION:

1. Calls made to a UCD multiline hunt group equipped with the queuing feature will complete immediately if there is an idle terminal in the UCD hunt group. However, if all terminals in the UCD hunt group are busy, the call is placed on queue and waits its turn to be served. If the delay announcements feature is active in the serving central office the calling party may receive silence, special tone, music or announcements if the call is not serviced within a customer specified length of time. The call that has been on queue the longest will be the first call served when a line becomes available. The customer determines the maximum number of calls that can be placed on queue. If the incoming call cannot be placed on queue, the calling party receives busy tone.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS25

2. In the 1A ESS and 5ESS switches, Call Waiting - Terminating and series completion cannot be assigned to lines of multiline hunt groups. The 5ESS and DMS-100 Queuing feature should not be assigned with Call Waiting - Terminating. In the DMS-100, the Universal Call Distribution feature is not compatible with Automatic Call Back, Automatic Recall, Automatic Call Distribution, Bridged Night Number, Calling Number Delivery, Calling Number Delivery Blocking, Distributed Line Hunting, Distributed Number Hunting, Multiline Hunting, Preferential Hunting and Stop Hunt.

3. References:

- TR-TSY-000569 Multiline Hunt Service, FSD 01-02-0802 (A Module of LSSGR, FR-64), Issue 1, May 1990.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

2.2 Category 2, Type B - X.75 Packet Switched BSA (1002)

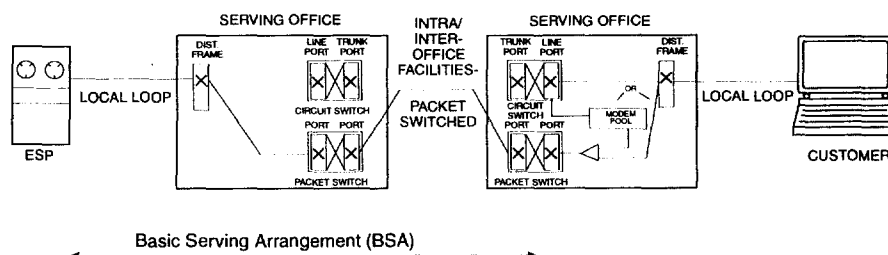
Service Description

The Type B Packet Switched BSA provides an ESP with X.75 access to the BOC packet switching network. The X.75 interface conforms to Recommendation X.75 of the International Telecommunication Union-Telecommunication Standardization Sector (ITU-TS) (formerly the International Telegraph and Telephone Consultative Committee [CCITT]).

X.75 includes physical, link and packet level procedures. At the physical level data signaling rates of 9.6 kbps are supported over analog or digital facilities. Speeds of 56 kbps are supported over digital facilities only. The link level protocol supported at the interface is Link Access Protocol Balanced (LAPB). The main functions of the link level protocol are to ensure that the packets cross the network interface essentially error free and reach their destination in a correctly transmitted sequence. The network level access protocol provides the procedures required to set up, maintain and clear virtual calls.

Generic Name of BSA	Regional Company BSA Name
Category 2, Type B - X.75 Packet Switched BSA	AM - Packet Switched Network Service (X.75) BA - Public Data Network: X.75 BS - PulseLink® Packet Switching - X.75 NX - INFOPATH® Packet Switching Service PB - Public Packet Switching (X.75) SWB - Packet Switched - MicroLink II SM (X.75 Version) USW - Packet Switching (X.75)

Packet Switching BSA



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Alternatives

An alternative is an item that must be selected for the BSA to be technically meaningful. Alternative items may be available from some or all of the Local Exchange Carriers (LECs). Refer to the individual LEC tariff reference diskette for the reference information where LEC defined alternatives may be found. Examples of potential alternatives may be: Logical Channel, Flow Control Parameters, and Multiple Network Addresses.

Signaling

Signaling arrangements extend alerting information on metallic or fiber facilities from one customer premises location to another customer premises location. Dial (circuit-switched) access provides low- to moderate-throughput Public Packet Switched Network (PPSN) access through the voice telephone network. With dial-in access, a customer terminal and modem are attached to the Public Switched Telephone Network (PSTN) loop. The customer dials a North American Numbering Plan (NANP) address and the PSTN routes the call to a PPSN dial-up port. The PPSN answers the call with a modem supporting one of several modem protocols.

With dial-out access, a call is routed to a PPSN interface supporting dial-out service. At this interface, the access concentrator obtains the NANP address and uses the ITU-TS (formerly CCITT) V.25 calling procedures to instruct the PPSN modem to establish a physical connection with the customer via the PSTN.

Dedicated (nonswitched) access provides the customer with continuously available interfaces to the PPSN.

Transmission

The subject of transmission covers a broad range of performance considerations related to the physical facilities that compose network architecture. Transmission parameters are designed to provide objective transmission performance characteristics, as perceived by the end user and LEC, between the points of termination. Transmission parameters are defined for each Network Interface (see below) supporting this BSA. These parameters are defined in the reference documentation.

Network Interface

The electrical and physical interface with the LEC is described by a Network Channel Interface (NCI) code for each end user termination and each service provider termination. NCI codes are provided to aid the user in understanding the relationship of the network interface to the electrical or optical characteristics of the interface. NCI codes have four basic components: (1) number of conductors (wire or fibers), (2) protocol code, (3) nominal reference impedance code, and (4) any applicable protocol options.

References

- GR-301 Public Packet Switched Network Generic Requirements (PPSNGR) (replaces TR-TSY-301, Issue 2), Issue 2, December 1997
- TR-NPL-000011 Asynchronous Terminal and Host Interface Reference, Issue 1, March 1985
- Ameritech TR-NPL-000001 Public Packet Services Technical Interface Specifications, Issue 2, September 1988
- Ameritech TR-NPL-000003 Technical Interface Specifications for Asynchronous Service, Issue 2, May 1988
- Ameritech TR-NPL-000007 Digital Service Interface Specifications, Type 1, Issue B, December 1988
- Ameritech TR-NPL-000016 Technical Interface Specifications for X.75 Service, Issue 2, May 1988

- Bell Atlantic TR 72211 Interface Specification For The Bell Atlantic Public Data Network, Issue C, December 1991
- BellSouth TR-73515 PulseLink® X.75 Interface Specification, Issue B, April 1991
- BellSouth TR-73516 PulseLink® Physical Interface Specification, Issue C, September 1991
- NYNEX NTR-74250 INFOPATH® Packet Switching Service X.25 Interface Specification, Issue 2, January 1988
- Pacific Bell PUB L-780060-PB Public Packet Switching (PPS) - Technical Interface Specification, Issue 1, August 1989
- Southwestern Bell Telephone Technical Publication TP 76800, MicroLink IISM X.25/X.75 Reference, Issue 4, September 1994
- U S WEST USWTR 77359 DIGIPAC® Service Interface Specifications For Public Packet Switching Network, Issue E, May 1994

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Customers can specify a length of time for incoming calls to be in queue before the Delay Announcement is activated.

Queuing can be zero seconds so that every caller receives an announcement.

Customers may have up to four different Delay Announcements.

Queuing timing begins after callers receive each announcement.

Announcement access trunks are required and must be traffic engineered for each customer.

Separate announcement access trunks are required for each Delay Announcement.

3. 5ESS Switch:

The following options are available, depending upon switch/generic type, with the delay announcement feature: Initial Tone treatment, Initial Delay Interval after Delay Announcement, Delay Interval between Delay Announcements, Delay Announcement Length, and Flexible First Delay Announcement.

There is a capability for four delay announcements in the 5ESS Switch. The 5ESS Switch has the capability to provide Inter delay (between announcements) timing, maximum of eight delays, tones and the number of cycles, up to 3, that a recording can play.

4. DMS-100 Switch:

Multiline Hunting queuing functionality is available via Uniform Call Distribution (UCD) in the Northern Telecom Inc. switching machines. Currently, a UCD is assigned to a Meridian Digital Centrex environment. Where there are more incoming calls than agents to serve them, delay will be encountered before the calls are answered. There is a maximum of three delay announcements available to the ESP. A recorded announcement advising of the delay will be provided when a delay threshold is exceeded. The delay threshold is a customer option for the NTI UCD.

5. References:

- TR-TSY-000569 Multiline Hunt Service, FSD 01-02-0802 (A Module of LSSGR, FR-64), Issue 1, May 1990.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Multiline Hunt Group - Individual Access To Each Port In Hunt Group (1079)

Individual access to each port in a hunt group allows each line in a multiline hunt group (including the lead line) to be assigned a separate non-hunt directory number.

Generic Name of ONA Service	Product Name	BSE or CNS
Multiline Hunt Group - Individual Access To Each Port In Hunt Group	AM - Non-Hunting Number For Use With Hunt Group Arrangement or UCD Arrangement	BSE
	BA - Non-Hunt Directory Numbers	BSE
	BS - Multiline Hunt Groups	BSE or CNS
	BS - Nonhunting Number for use with Hunt Group or UCD Arrangement (Access)	BSE
	NX - Hunt Groups	BSE or CNS
	PB - Nonhunting Number Arrangement	BSE
	SWB - Nonhunting Number Arrangement	BSE
	USW - Hunting	BSE

FEATURE OPERATION:

When the non-hunt directory number is dialed, a call is placed only to the designated number. If the number is busy, the call will not route to other members of the hunt group, and a busy signal is returned.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

- Individual access to each port in a hunt group is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS25

- In the 1A ESS switch this feature can be assigned with the following constraints:

Each terminal number must be assigned its own Directory Number.

Queuing of Lines will not be allowed.

Stop Hunt Keys are not permitted.

- In the DMS-100 this feature can be satisfied by using either Distributed Line Hunting or the Multiline Hunt Group Feature in conjunction with the Bridged Night Number feature. The Individual Access to Each Port in a Hunt Group feature is not compatible with the Universal Call Distribution hunting arrangement in the DMS-100.
- Call Waiting - Terminating and Call Forwarding features should not be assigned to the non-hunt directory number.

5. References:

- TR-TSY-000569 Multiline Hunt Service, FSD 01-02-0802 (A Module of LSSGR, FR-64), Issue 1, May 1990.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Multiline Hunt Group - Overflow (1080)

The maximum size of hunt groups is switching system dependent. This capability permits hunt groups to be large in size, within the limitations of the switching system serving the ESP. MLHG - Overflow allows a call destined for the ESP's hunt group to be routed to another telephone number within the same switching machine, but outside the hunt group. This capability requires an extra translation in order for the multiline hunt group overflow to be enabled in the switch.

Generic Name of ONA Service	Product Name	BSE or CNS
Multiline Hunt Group - Overflow	AM - Multiline Hunt Group Overflow	BSE
	BA - Multi-line Hunt Group	BSE
	BS - Multiline Hunt Groups	BSE or CNS
	NX - Hunt Groups	BSE
	PB - Hunt Group Overflow	BSE
	USW - Hunting	BSE

FEATURE OPERATION:

In the 1A ESS and 5ESS machines, Call Forwarding Busy Line (CFBL) will be assigned to the MLHG to accomplish the overflow function. In the DMS 100, Line Hunt Overflow to a Route or Line Hunt Overflow to a Directory Number are utilized to provide this capability.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS17

2. 1A ESS and 5ESS Switches:

For MLHG hunt lines, CFBL call forwarding occurs only when all lines are busy. The lines hunted depend on the hunting arrangement as follows:

Regular Hunting, CFBL forwarding treatment is provided only when all lines hunted, including the last line in the hunt group, are found busy.

Circular Hunting is similar to regular hunting except hunting does not end with the last line in a prearranged hunt group. In circular hunting, all lines in the hunt group are hunted for an incoming call. CFBL call forwarding treatment is provided only when all lines in a circular hunt group are searched and found busy.

3. DMS 100 Switch:

The following overflow features can be assigned to Distributed Number Hunting, Multiline Hunting and Distributed Line Hunting:

If all lines in the above listed hunt groups are busy, the overflow to a directory number (LOD) feature can be assigned to the hunt group. The LOD feature will cause hunting to continue to a specified directory number.

If all lines in the above listed hunt groups are busy, the overflow to a route index (LOR) can be assigned to the hunt group. This will give the ESP the capability to hunt to a trunk group, announcement group, or private facilities that are accessed via a route index.

4. References:

- TR-TSY-000569 Multiline Hunt Service, FSD 01-02-0802 (A Module of LSSGR, FR-64), Issue 1, May 1990.

This service is associated with the Circuit Switched Line basic serving arrangement.

Multiline Hunt Group - Uniform Call Distribution Line Hunting (1081)

The Uniform Call Distribution line hunting arrangement allows for equal distribution of incoming calls to all terminal numbers within a hunt group.

Generic Name of ONA Service	Product Name	BSE or CNS
Multiline Hunt Group - Uniform Call Distribution Line Hunting	AM - Uniform Call Distribution	BSE
	BA - Uniform Call Distribution	BSE
	BS - Uniform Call Distribution	BSE
	NX - Queuing/UCD	BSE or CNS
	PB - Uniform Call Distribution	BSE
	SWB - Uniform Call Distribution Arrangement	BSE
	USW - Uniform Call Distribution	BSE

FEATURE OPERATION:

1. When an incoming call (to the Directory Number of the multiline hunt group) is received, hunting should begin at the start-hunt terminal and proceed as a circular hunt.
2. When an idle terminal is found, the call should be completed, and immediately (even before another call attempts to terminate) a new circular hunt should begin for an idle terminal. This hunt should begin at the terminal number after the one that the call was just completed. When an idle terminal is found, the hunt should stop and the idle terminal number should be stored as the start-hunt terminal for the next incoming call to the Directory Number (DN) of the multiline hunt group (MLHG). If no idle terminal is found after a complete circular hunt is made, the stored start-hunt DN should be the DN of the last completed call.
3. If an incoming call is not to the DN of the MLHG but to a DN associated with one of the terminals of the MLHG instead, the start-hunt terminal as defined above for Uniform Call Distribution should not be used. Instead, the incoming call should be directed to the terminal associated with the called DN directly. If the called DN terminal is busy, a circular hunt should begin at the called DN terminal and continue until an idle terminal is found. If none is found, the incoming call should be given busy treatment. In either case, the next incoming call to the MLHG DN uses a start-hunt number as determined by 2 above, which is unaffected by the call to a terminal's direct DN.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS25

2. In the 1A ESS and 5ESS switches, Call Waiting - Terminating and series completion cannot be assigned to lines with the UCD feature. In the DMS-100, the Universal Call Distribution feature is not compatible with Automatic

Call Back, Automatic Recall, Automatic Call Distribution, Bridged Night Number, Calling Number Delivery, Calling Number Delivery Blocking, Distributed Line Hunting, Distributed Number Hunting, Multiline Hunting, Preferential Hunting and Stop Hunt.

3. References:

- TR-TSY-000569 Multiline Hunt Service, FSD 01-02-0802 (A Module of LSSGR, FR-64), Issue 1, May 1990, see "uniform call distribution hunting."

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Multiline Hunt Group - UCD With Queuing (1082)

This feature provides the capability for a UCD multiline hunt group to be equipped with the queuing feature. The queuing feature provides a means for automatically queuing calls to a multiline hunt group when all hunting group terminations are busy.

Generic Name of ONA Service	Product Name	BSE or CNS
Multiline Hunt Group - UCD With Queuing	AM - Queuing	BSE
	BA - Uniform Call Distribution	BSE
	BS - Multiline Hunt Queuing	BSE
	BS - Queuing (Access)	BSE
	NX - Queuing/UCD	BSE or CNS
	PB - Uniform Call Distribution With Queuing	BSE
	SWB - Queuing	BSE
	USW - Uniform Call Distribution	BSE

FEATURE OPERATION:

1. Calls made to a UCD multiline hunt group equipped with the queuing feature will complete immediately if there is an idle terminal in the UCD hunt group. However, if all terminals in the UCD hunt group are busy, the call is placed on queue and waits its turn to be served. If the delay announcements feature is active in the serving central office the calling party may receive silence, special tone, music or announcements if the call is not serviced within a customer specified length of time. The call that has been on queue the longest will be the first call served when a line becomes available. The customer determines the maximum number of calls that can be placed on queue. If the incoming call cannot be placed on queue, the calling party receives busy tone.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS25

2. In the 1A ESS and 5ESS switches, Call Waiting - Terminating and series completion cannot be assigned to lines of multiline hunt groups. The 5ESS and DMS-100 Queuing feature should not be assigned with Call Waiting - Terminating. In the DMS-100, the Universal Call Distribution feature is not compatible with Automatic Call Back, Automatic Recall, Automatic Call Distribution, Bridged Night Number, Calling Number Delivery, Calling Number Delivery Blocking, Distributed Line Hunting, Distributed Number Hunting, Multiline Hunting, Preferential Hunting and Stop Hunt.

3. References:

- TR-TSY-000569 Multiline Hunt Service, FSD 01-02-0802 (A Module of LSSGR, FR-64), Issue 1, May 1990.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Name of Calling Party (1097)

Name of Calling Party is a terminating user feature that allows the subscriber to receive the name associated with the calling number prior to answering the call.

Name of Calling Party, or Calling party NAME (CNAM) is an incremental feature functionality that adds calling name information to the existing "Calling Directory Number Delivery - via ICLID" service also described in the ONA Services User Guide.

When CNAM is assigned to the subscriber's line, the name associated with the calling number, along with the directory number of the calling party, the time of the call and the date are sent to, and displayed on, the called party's customer premises equipment (CPE) during the first long silent interval of the ringing cycle (between the first and second rings). If the calling party is outside the area in which the service works, the called party's CPE will receive an "0" which in most cases is displayed as "Out of Area" (actual display is the function of the CPE used).

Generic Name of ONA Service	Product Name	BSE or CNS
Name of Calling Party	AM - Caller ID With Name	CNS
	BA - Caller-ID Deluxe	CNS
	BS - Caller ID Deluxe	CNS
	NX - Call ID Deluxe	CNS

FEATURE OPERATION:

The customer must contact the telephone company to have the CNAM service activated. Once the translation changes have been made to the customer's line and the customer has installed the appropriate CPE, the name associated with the calling number, the calling number, and the date and time of call is automatically transmitted to the customer's CPE.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE10	5E8	BCS36

2. All Technological and Feature Interaction Considerations applicable to Calling Directory Number Delivery - via ICLID also apply to CNAM. Refer to those considerations in the Services Descriptions section of this User Guide.
3. A maximum of 15 characters is allowed for transmission of the calling party Directory Name.
4. If the incoming call originates from a customer provided or Telephone Company Public Telephone or a Telephone Company provided Semi-Public Telephone, the name information provided will always be "Pay Phone."

5. If the incoming call originates from a multi-line hunt group, the name and number transmitted will always be the main listed directory name and number of the hunt group, unless, facilities permitting, the lines are Telephone Number identified within the group.
6. If the incoming call originates from a caller who subscribes to "Distinctive Ringing - Terminating Screening" (described in the Services Descriptions section of this User Guide), the name and number transmitted will always be the main directory listing information rather than the "Distinctive Ringing - Terminating Screening" service listed name and number.
7. If the incoming call is from a caller served by a PBX, only the main listed name and number of the PBX will be transmitted and available for display.
8. Calling party information is not available on Operator handled calls.
9. References:
 - GR-1519: CCSNIS Supporting TR-1188 Calling Name Delivery, Issue 1, October 1994 (Component of FR-905)
 - TR-NWT-001188 CLASSSM Feature: Calling Name Delivery Generic Requirements, FSD 01-02-1070 (A Module of LSSGR, FR-64), Issue 1, December 1991

Reverse Billing On Circuit Switched Access (1083) *

Reverse Billing provides the ESP's client with the ability to make calls to the ESP without the ESP's client being billed for charges associated with the calls (e.g., message units, measured service charges, intraLATA toll), which might otherwise apply.

Generic Name of ONA Service	Product Name	BSE or CNS
Reverse Billing On Circuit Switched Access	BS - Uniform Access Number	BSE

FEATURE OPERATION:

The reverse billing feature provides the end user the ability to access the local Enhanced Service Provider (ESP) telephone number without incurring local message units or intraLATA toll. The Reverse Billing service is applicable to all calls terminating to an ESP's service provided the NPA/NXX for the ESP exists within the dial plan area.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS17

2. For a voice grade line circuit switched application, reverse billing is a function of the billing systems. The technology to provide reverse billing is dependent on two systems - the central office where the call originates must have recording capability, and the billing systems must be able to process the billing information and reverse the billing to the terminating telephone number. In order to make the billing systems' tasks less complex, a unique NXX must be assigned for the reverse billing telephone numbers. The unique NXX indicates to the billing system that calls placed to numbers in this NXX must be treated differently than normal calls. The switching equipment in each LATA must have the capability to code convert all seven or ten digits of the unique NXX to facilitate completion of the call to the ESP.
3. References: not applicable.

This service is associated with the Circuit Switched Line basic serving arrangement.

* Note that this name has been changed slightly, and the description has been modified so that it no longer includes packet, compared to the information published in the May 24, 1989 BOC ONA Special Report #5 and December 29, 1989 BSA Matrix Supplement documents. For information on the packet version of this service, see the service called "Reverse Charge Acceptance - Packet" in the packet services section of this document.

Selective Call Forwarding (1084)

Selective Call Forwarding (CLASSSM) allows the subscriber to specify a list of telephone numbers that will be forwarded to a remote station. When a call is received from one of the numbers on the list, the call will automatically be forwarded to the designated station. When a call is received from a number that is not on the list, the call will be terminated to the called party's line.

Generic Name of ONA Service	Product Name	BSE or CNS
Selective Call Forwarding	BA - Select Forward	CNS
	BS - Preferred Call Forwarding	CNS
	PB - Select Call Forwarding	CNS or BSE
	SWB - Selective Call Forwarding	CNS
	USW - Selective Call Forwarding	CNS

FEATURE OPERATION:

The customer must contact the telephone company to initiate Selective Call Forwarding service. A service order is required. The customer initiates control of the Selective Call Forwarding screening list contents as well as activation and deactivation of the service by dialing access codes as described below. Once the appropriate translations have been made to the customer's line the customer may activate, deactivate and/or use the service as follows. (Note: Prior to the 1A ESS 1AE10.2 generic, it was necessary for the 1A ESS Selective Call Forwarding customers to also subscribe to Call Forwarding Variable in order to activate the service.)

1. 1A ESS (Generic 1AE10.02 and later): To activate the Selective Call Forwarding service, the customer must go off-hook and dial *63 (1163 for rotary dial). The customer will then receive an announcement providing the following information:

- The name of the service.
- The telephone number the calls will be forwarded to.
- The service is now active.
- The number of entries on the list.
- The instructions for creating/adding to the list; removing subscriber's entries from the list; reviewing the list.

To deactivate the service, the customer must go off-hook and dial *83 (1183 for rotary dial). The customer will then receive an announcement providing the following information:

- The name of the service.
- The service is now off.
- The number of entries on the list.

— The instructions for removing any subscriber list entry; removing all subscriber entered numbers.

2. 5ESS and DMS-100: To activate or deactivate the Selective Call Forwarding service, the customer must go off-hook and dial either *63 or *83 (1163 or 1183 for rotary dial). Once either access code has been successfully entered, the customer should receive an announcement providing the following information:

— The name of the service.

— The telephone number the calls will be forwarded to.

— The status of the service (active or inactive).

— The number of entries on the list.

— The instructions for creating/adding to the list, removing, reviewing the list, changing of service status (active to inactive, inactive to active).

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE10*	5E6	BCS31**

NOTE: * Available on an intraoffice basis with 1AE9.

** References to switching system generics that have not yet been released by the vendors are based on our current information about which features are planned for inclusion in those generic releases. If the vendors change the availability of any features for future generic releases that are referenced in this document, the availability of some services may be affected.

2. The maximum directory number list size is pre-determined by the Local Exchange Company on a Company basis and can range from 2 to 31.
3. The serving central office switch must be equipped with the appropriate CLASSSM Selective Call Forwarding software and hardware. In order for this service to work on an interoffice basis, both the originating and terminating switches must be equipped with the CLASS and Common Channel Signaling (CCS) SS7 software and hardware and the interoffice trunks must be converted to SS7. The remote directory number ("forward to" number) does not have to be in a switch in the CLASS Calling Area or in a switch equipped with CLASS or SS7.
4. This service is a "line" service and therefore cannot be assigned to subscribers with trunk terminations (i.e., PBX with DID). This service is also unavailable to customers with the following types of lines: multiparty, hotel/ motel, coin and coinless public, 1A ESS remote switching system lines (RSS), and Centrex attendant with console.
5. If the subscriber is served from a 1A ESS Generic 1AE10.02 and later switch, the subscriber no longer needs to have Call Forwarding Variable service in order for Selective Call Forwarding to work. However, even though the subscriber may have both Selective Call Forwarding (SCF) and Call Forwarding Variable (CFV) assigned to their line, they CANNOT have both services active at the same time. With the 1A ESS 1AE10.03 generic, the subscriber can have SCF and CFV services activated at the same time, if the Local Exchange Company equips their central offices accordingly.

6. References:

- TR-TSY-000217 CLASSSM Feature: Selective Call Forwarding, FSD 01-02-1410 (A Module of LSSGR, FR-64), Issue 2, November 1988, Revision 1, May 1992.
- TR-NWT-000220, CLASSSM Feature: Screening List Editing, FSD 30-28-0000 (A Module of LSSGR, FR-64), Issue 3, December 1993.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Selective Call Rejection (1085)

Selective Call Rejection (CLASS)SM provides the subscriber with the ability to block incoming calls from a pre-specified list of directory numbers. The subscriber to this feature builds a list of telephone numbers that they want automatically blocked. The pre-selected (blocked) directory numbers are routed to a standard central office announcement instead of the dialed number. Subscribers can also place the number of the last incoming call on their list, without having to know the telephone number, by dialing a special command code. However, this must be done PRIOR to receiving another call.

Generic Name of ONA Service	Product Name	BSE or CNS
Selective Call Rejection	AM - Call Screening	CNS
	BA - Call Block	CNS
	BS - Call Block	CNS
	PB - Call Block	CNS or BSE
	SWB - Call Blocker SM	CNS
	USW - Call Rejection	CNS

FEATURE OPERATION:

The customer must contact the local telephone company to initiate Selective Call Rejection service. A service order is required. The customer initiates control of the Selective Call Rejection screening list contents as well as activation and deactivation of the service by dialing access codes as described below. Once the appropriate translations have been made to the customer's line the customer may activate, deactivate and/or use the service as follows.

1. 1A ESS: To activate the Selective Call Rejection service, the customer must go off-hook and dial *60 (1160 for rotary dial). The customer will then receive an announcement providing the following information:

- The name of the service.
- The service is now active.
- The number of entries on the list.
- The instructions for adding the last incoming number to the list, adding known numbers to the list; removing subscriber entries from the list; reviewing the list.

To deactivate the service, the customer must go off-hook and dial *80 (1180 for rotary dial). The customer will then receive an announcement providing the following information:

- The name of the service.
- The service is now off.

SM CLASS is a service mark of Telcordia Technologies, Inc. (formerly Bellcore)

SM Call Blocker is a service mark of Southwestern Bell Telephone.

- The number of entries on the list.
 - The instructions for removing any subscriber list entry; removing all subscriber entered numbers.
2. 5ESS and DMS-100: To activate or deactivate the Selective Call Rejection service, the customer must go off-hook and dial either *60 or *80 (1160 or 1180 for rotary dial). Once either access code has been successfully entered, the customer should receive an announcement providing the following information:
- The name of the service.
 - The status of the service (active or inactive).
 - The number of entries on the list.
 - The instructions for adding the last incoming number to the list, adding removing, reviewing the list, changing of service status (active to inactive, inactive to active).

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE10*	5E6	BCS31**

NOTE: * Available on an intraoffice basis with 1AE9.

** References to switching system generics that have not yet been released by the vendors are based on our current information about which features are planned for inclusion in those generic releases. If the vendors change the availability of any features for future generic releases that are referenced in this document, the availability of some services may be affected.

2. The maximum list size is pre-determined by the telephone company on a company basis and can range from 2 to 31.
3. The serving central office switch must be equipped with the appropriate CLASSSM Selective Call Rejection software and hardware. In order for this service to work on an interoffice basis, both the originating and terminating switches must be equipped with the CLASSSM and Common Channel Signaling (CCS) SS7 software and hardware and the interoffice trunks must be converted to SS7.
4. This service is a "line" service and therefore cannot be assigned to subscribers with trunk terminations (i.e., PBX with DID). This service is also unavailable to customers with the following types of lines: multiparty, hotel/ motel, coin and coinless public, 1A ESS remote switching system lines (RSS), and Centrex attendant with console.
5. The announcement the rejected call is routed to is a telephone company recorded announcement (not customer changeable).

6. References:

- TR-TSY-000218 CLASSSM Feature: Selective Call Rejection, FSD 01-02-0760 (A Module of LSSGR, FR-64), Issue 2, November 1988, Revision 1, May 1992.
- TR-NWT-000220, CLASSSM Feature: Screening List Editing, FSD 30-28-0000 (A Module of LSSGR, FR-64), Issue 3, December 1993.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Shared Speed Calling (1086)

Shared Speed Calling will permit an ESP's clients to access a speed calling list and to call an ESP by dialing only one (or two) digit(s) instead of seven or ten digits. The ESP controls the speed calling list and determines which telephone numbers that the clients will be able to access via shared speed calling as well as the abbreviated code assigned to each number. The ESP must order the service from the BOC before an ESP client can have access to the shared speed calling list. This is due to a technological requirement of the service design that requires that each ESP's client's line be associated in the switch software with the ESP-established list.

This service differs from Speed Calling in that it allows multiple customers (ESP clients) to easily and conveniently access their ESPs without the need for each ESP client to individually subscribe to Speed Calling on their line. Speed Calling is unique to individual customer lines and the telephone numbers associated with each abbreviated code on the list are determined by the individual subscriber to the service. As with Speed Calling, Shared Speed Calling is available using either one or two digit abbreviated codes. One digit allows one to eight abbreviated codes while two digit allows one to thirty abbreviated codes.

Generic Name of ONA Service	Product Name	BSE or CNS
Shared Speed Calling	BA - Shared Speed Calling	CNS
	PB - Network Speed Calling	CNS
	USW - Abbreviated Access/Activation (1 or 2 Digit)	CNS

FEATURE OPERATION:

1. To call any of the directory numbers assigned to a Shared Speed Call list the ESP or their clients perform the following operations:
 - a. Listen for dial tone.
 - b. Dial the one or two digit Shared Speed Call code assigned to the desired directory number or destination. After a four-second pause, the call is processed. (Callers from touchtone telephones can avoid the four-second pause by dialing # after the Speed Call code.)
2. To change any numbers or to add a number to the Shared Speed Call list, the following operations are performed by the ESP from their line:
 1. Listen for dial tone.
 2. Dial the applicable Shared Speed Call change code (typically three or four digits).
 3. After receipt of second dial tone, dial the Shared Speed Call code that is changing or being added and then dial the new directory number associated with the Shared Speed Call code. (If a fast busy tone is encountered the action must be repeated because the change did not occur.)

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. Only the ESP can control (i.e., change or add to) the list. The ESP must have an access line in the Central Office switch where the Shared Speed Call list is established. All clients must be in this same Central Office switch.
2. This feature is available to POTS subscribers in the following central office switches:

Switch Type	1A ESS	5ESS
Earliest Generic Release	1AE8A	5E2(2)

3. The capability may be limited to certain POTS classes of service. It is generally available to Centrex subscribers in all types of Central office switches offering Centrex service.
4. The maximum number of digits in the telephone number assigned to the Shared Speed Call code is 15 in the 1A ESS and 32 in the 5ESS.
5. Multiline subscribers can have Shared Speed Calling on each line if desired.
6. Shared Speed Calling can be used in conjunction with Three-Way Calling or Three-Way Call Transfer if the subscriber wishes to add to an established call someone who is on their Shared Speed Call list.
7. Subscribers with Shared Speed Calling (one-digit) can also have Speed Calling (two-digit) or Speed Calling (thirty number) on the same line. Subscribers with Shared Speed Calling (two-digit) can also have Shared Speed Calling (one-digit) or Speed Calling (eight number) on the same line.
8. References:
 - TR-TSY-000570 Speed Calling, FSD 01-02-1101 (A Module of LSSGR, FR-64), Issue 1, July 1989, see "Shared Speed Calling."

Single Number Access For Multiple Locations (1098)

Single Number Access for Multiple Locations allows subscribers with multiple locations to advertise a single 7-digit telephone number LATAwide. Calls to the subscriber's number are routed to the most appropriate location based on subscriber-selected parameters, such as originating geographic location, time-of-day, day-of-week, or percent distribution of calls.

Generic Name of ONA Service	Product Name	BSE or CNS
Single Number Access for Multiple Locations	BS - Area Number Calling *	CNS

FEATURE OPERATION:

Subscribers desiring the Single Number Access for Multiple Locations service must contact the telephone company to have the service established. They are assigned a 7-digit number in an NXX code dedicated for this service. Calls originating to the dedicated NXX are recognized as requiring special handling. AIN Release 0 offices send a query to the service control point (SCP) which determines the "real" (local telephone network number) terminating number based on the number dialed and the parameters selected by the subscriber. This information is transmitted back to the querying office, which uses the "real" terminating number to route the call. If the call originates in an office that is not AIN Release 0 capable but is SS7 capable, then the call, including the calling number, is routed to an office that can perform the SCP query and route the call. If the originating office is neither AIN Release 0 nor SS7 capable, it is routed to an AIN capable office without the calling number and treated as agreed upon by the telephone company and the subscriber.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	See Note	5E8	BCS35

Note: A 1AESS cannot access the SCP to translate the call, but if it is equipped with 1AE10 and SS7 capability, it can route the call to a 5ESS or DMS-100 for handling.

2. Feature operation is dependent on the type of central office switch in which the call originates, not the switch type that the subscriber is served by.
3. Calls are dialed on a 7-digit basis throughout the LATA. If toll charges are involved (if the 7-digit number is translated to a 10-digit intraLATA toll number), they are billed as agreed to by the telephone company and the subscriber.
4. Geographic routing will allow calls to be routed based on originating wire center, or on originating block group boundaries. Block groups are based on the U. S. Census Bureau-based geographical coordinates, and will allow subscribers to design their own service areas below the wire center level.

* Service is only available to existing BellSouth subscribers.

5. Time-of-Day routing is based on the time the originating call is made.
6. Day-of-Week routing is based on which day of the week the calls are made.
7. Percent distribution routing allows the subscriber to distribute the call volumes going to each location, i.e., 20% to Location A, 30% to Location B, etc.
8. Default treatment will be specified for calls not mapped to a particular location, such as out of area calls, and calls without calling line identification delivered with the call.
9. Reference: Not available.

Speed Calling (1087)

Speed Calling (eight number) allows a subscriber to establish a connection to certain directory numbers by dialing one digit instead of seven to ten digits. The service has a limit of eight speed calling access codes (each single digit code is associated with a telephone number).

Speed Calling (thirty number) allows a subscriber to establish a connection to certain directory numbers by dialing two digits instead of seven to ten digits. The service has a limit of 30 speed calling access codes (each two digit code is associated with a telephone number).

The telephone numbers associated with access codes of a speed call list are determined by the client. The client has the ability to add or change the telephone numbers assigned to such codes through use of the client's station.

Generic Name of ONA Service	Product Name	BSE or CNS
Speed Calling	AM - Speed Calling	CNS
	BA - Speed Calling	CNS
	BS - Speed Calling	CNS
	NX - Speed Calling	CNS
	PB - Speed Calling (8 & 30 Number)	CNS
	SWB - Speed Calling	CNS
	USW - Speed Calling (8 Number)	CNS
	USW - Speed Calling (30 Number)	CNS

FEATURE OPERATION:

1. To call any of the directory numbers assigned to a Speed Call list, the subscriber performs the following operations:
 1. Listen for dial tone.
 2. Dial the one or two-digit Speed Call code assigned to the desired directory number. After a four-second pause, the call is processed. (Callers from touchtone telephones can avoid the four-second pause by dialing # after the Speed Call code.)
2. To change any numbers or to add a number to the Speed Call list, the following operations are performed from the subscriber's line:
 - a. Listen for dial tone.
 - b. Dial the applicable Speed Call change code (typically three or four digits).
 - c. After receipt of second dial tone, dial the Speed Call code that is changing or being added and then dial the new directory number associated with the Speed Call code. (If a fast busy tone is encountered the action must be repeated because the change did not occur.)

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS17

2. The maximum number of digits in the telephone number assigned to the Speed Call code is 15 in the 1A ESS, 32 in the 5ESS and 15 in the DMS-100.
3. Multiline subscribers can have Speed Calling on each line if desired.
4. Speed Calling can be used in conjunction with Three-Way Calling or Three-Way Call Transfer if the subscriber wishes to add to an established call someone who is on their Speed Call list.
5. Subscribers with Speed Calling (eight-number) can also have Speed Calling (thirty-number) Shared Speed Calling (two-digit) on the same line. Subscribers with Speed Calling (thirty-number) can also have Speed Calling (eight-number) Shared Speed Calling (one-digit) on the same line.
6. References:
 - TR-TSY-000570 Speed Calling, FSD 01-02-1101 (A Module of LSSGR, FR-64), Issue 1, July 1989.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Tandem Routing (1088)

Tandem Routing provides for access by ESPs to the exchange network with trunk and/or line interfaces through tandem switches. This allows ESPs to interconnect with the network at a single point and be accessed by customers in a selected group of end offices, all of which subtend that tandem. In some jurisdictions, at the option of the ESP, calls from a particular end office may be blocked or forwarded to the ESP, allowing the ESP to create a custom services area from the LATA sector served by the tandem.

Generic Name of ONA Service	Product Name	BSE or CNS
Tandem Routing	AM - Tandem Routing	BSA *
	BA - Tandem Routing	BSE
	BS - Custom Service Areas	BSE
	NX - Tandem Routing	BSA *
	PB - Tandem Routing	BSA *
	USW - Tandem Routing	BSA *

FEATURE OPERATION:

Tandem translations supply data for routing calls over tandem trunks. Tandem trunks that are incoming from a tandem office or central office cannot terminate at a line or tone circuit in a local office, with the exception of a connection to reorder tone when all outgoing trunks are busy or a network blockage occurs. Instead, these trunks are switched to tandem completing trunks that are outgoing to a local office.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS19

2. All three switch types require specific generic software to configure the switch for tandem operation. An example of this is the Northern Telecom NTX386AA feature package, used in the DMS 100/200 to configure this switch for Access Tandem capabilities. This feature package enables access tandem translations and screening, trunking, treatments, and billing as well as various software support features. Because all offices do not contain the necessary feature packages for tandem trunking, the local exchange company must be contacted for specific geographic locations of the switches with this capability.
3. In some regional companies, this service may be limited to trunk side access services utilizing Feature Groups B and D protocol, or Feature Group D protocol only.

* For Ameritech, NYNEX, Pacific Bell and U S WEST, this is met by an alternative of the Circuit Switched Trunk BSA.

4. References:

- GR-540 LSSGR: Tandem Supplement (A Module of LSSGR, FR-64), Issue 2, March 1999 (Replaces TR-TSY-000540, Issue 2).

This service, if offered as a BSE, is associated with the Circuit Switched Trunk basic serving arrangement.

Three Way Call Transfer (1089)

Three Way Call Transfer provides the ESP who is on an established call with the ability to add another party to perform a three way conference. After establishing the conference, the ESP may drop their connection without disconnecting the remaining two parties. This action allows the ESP to transfer specific calls and free their line to initiate or receive another call.

Generic Name of ONA Service	Product Name	BSE or CNS
Three Way Call Transfer	AM - Three Way Call Transfer	BSE
	BA - Three-Way Call Transfer	BSE
	BS - User Transfer	BSE or CNS
	NX - Call Transfer	BSE
	PB - Call Transfer	BSE
	USW - Call Transfer	BSE

FEATURE OPERATION:

1. To transfer an established call: Advise first party, then depress the receiver button (recall dial tone is heard); dial number of the third party (hear ringing); announce the call, depress the receiver button to add on the first party, then hang up.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A*	5E5*	BCS29

* Note that on the 1A ESS and 5ESS, this is made available by placing customers in a Centrex Common Block.

2. An additional option for the ESP with Centrex is to allow calls to be transferred outside of the Centrex environment. This optional feature is known as DID/DOD Transfer.
3. Call Forwarding Variable is compatible with Three Way Call Transfer service.
4. Call Hold and Three Way Call Transfer can be assigned to the same line.
5. Call Pickup and Three Way Call Transfer can be assigned to the same line.
6. Speed Calling and Three Way Call Transfer can be assigned to the same line.
7. Three Way Call Transfer may be assigned to either or both parties on a Two-Party Line.

8. Three Way Call Transfer may not be provided on the following lines:

- Coin Lines
- Denied Originating Lines
- Four and Eight Party Lines
- PBX Lines
- Hotel/Motel Calls Routed to TSPS

9. References:

- TR-TSY-000579 Add-On Transfer and Conference Calling Features, FSD 01-02-1305 (A Module of LSSGR, FR-64), Issue 1, September 1989.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Uniform 7 Digit Access Number - Remote Call Forwarding (1090)

This capability provides a uniform seven-digit telephone number which can be dialed without an NPA prefix and is remotely call forwarded to an ESP, thereby giving an appearance of a local presence. The subscriber (ESP) may pay all end user customer usage charges and can specify a custom routing arrangement with either a central location or multiple locations throughout a LATA.

This capability uses Remote Call Forwarding technology, simulated facility groups and a dedicated NXX code. Custom Routing is an added feature.

Generic Name of ONA Service	Product Name	BSE or CNS
Uniform 7 Digit Access Number - Remote Call Forwarding	BA - One Number Service	BSE

FEATURE OPERATION:

To reach a subscriber, a client dials the seven digit number assigned by the telephone company. The call is routed to the central office switch where the translations for the capability reside. From there the call is directed to the destination specified by the subscriber. The number of simultaneous calls that can be directed to a destination is controlled by a Simulated Facility Group. Calls are completed via the Public Switched Network.

To reach a subscriber with Custom Routing, a client dials the seven digit number assigned by the telephone company. The call is translated in the originating switch and directed to the destination specified by the subscriber. Since the translations are done in each originating switch, each switch can direct calls to a different destination. A Simulated Facilities Group is established in each end office switch with Custom Routing to limit the number of simultaneous calls that can be forwarded from that switch. Calls originating in switches without translations for this capability are routed to an announcement. Calls are completed via the Public Switched Network.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS19

2. To establish this capability and to change an established arrangement for this capability requires a service order.
3. Subscribers desiring the Custom Routing option must specify the central office switches they wish to serve. Calls originating in an area that has not been designated as part of a Custom Routing area will receive a vacant code announcement.

4. References:

- Reference for Remote Call Forwarding: TR-TSY-000581 Remote Call Forwarding, FSD 01-02-1402 (A Module of LSSGR, FR-64), Issue 1, October 1989.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Uniform 7 Digit Access Number via Overlay Networking (1091)

This feature provides the ESP with a uniform 7 digit directory number for use (for example) across a LATA, state or regional company. The clients will be able to dial one number from all locations within the specified area(s), and the calls will be routed to a specified ESP location within each LATA. Uniform Access Number is the ability of an ESP to use the same 7 digit telephone number in multiple service areas, possibly region-wide. All numbers used in Uniform Access Number will come from an NXX (or NXXs) especially designated for ESP use.

Generic Name of ONA Service	Product Name	BSE or CNS
Uniform 7 Digit Access Number via Overlay Networking	BS - Uniform Access Numbers for Business Lines	BSE

FEATURE OPERATION:

The feature is supported by trunking architecture that could include direct and tandem switching center routing to the called ESP. Future routing plans will include Common Channel Signaling (SS7) technology.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. No specific vendor software or features are required. Specific telephone company architecture, capabilities and operation could vary.
2. References:
 - No requirements reference available.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Warm Line (1092)

The warm line capability is a Central Office switch based automatic dialing feature.

If an ESP's client with a warm line capability goes off-hook and commences dialing within the time delay period, the call will proceed normally as dialed. If dialing has not started before the end of the time delay period, a stored number is automatically dialed.

Generic Name of ONA Service	Product Name	BSE or CNS
Warm Line	AM - Easy Call	CNS
	BA - Warm Line	CNS
	BS - Warm Line	CNS
	NX - Warm Line	BSE or CNS
	PB - Warm Line	CNS
	SWB - Warm Line	CNS
	USW - Warm Line	CNS

FEATURE OPERATION:

1. A subscriber of this service, upon going off-hook to initiate an outgoing call has the option to either:
 - a. Dial the call in the normal manner or
 - b. Wait for the prespecified time delay period and have the call automatically dialed to a single predetermined number or
 - c. If calling from a touchtone phone, dial the # to immediately activate the automatic dialing.
2. The service, including the time delay interval and the predetermined number, is initially activated via a service order with the telephone company.
3. Subsequent changes to the time delay interval may only be made via a telephone company service order. Changes to the predetermined number may be made via a telephone company service order or, as an option, be made from the subscriber's line in the following manner:
 - a. Listen for dial tone.
 - b. Dial a telephone company assigned update code and receive second dial tone after a four second pause (subscribers with touchtone lines can avoid this pause by dialing # after the update code).
 - c. Dial the new number. After a short time-out period, the new number will be active.

If the above-described option is available, the service can be deactivated by following the same procedure but not dialing in a new number. To reactivate the service, the subscriber would again follow the above-described procedure and must re-enter the predetermined number.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	DMS-100
Earliest Generic Release	BCS17

2. The predetermined telephone number can be any number normally dialable from the subscriber's line.
3. The time delay period is specified on a per line basis and can range from 0 to 20 seconds (a usual value would be 4 or 5 seconds).
4. Incoming calls are unaffected by this service.
5. A line with this service cannot have Hot Line service.
6. Warm Line can be used in conjunction with Three Way Calling or Three Way Call Transfer if the subscriber wishes to add the predetermined number to an established call.
7. No LSSGR reference available.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.